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08/581347

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
08/581,347	12/29/95	CLEEVES	J 16820.P121
EXAMINER			

HM12/0121  
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RYAN, V ART UNIT	PAPER NUMBER
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1641

DATE MAILED: 01/21/00

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

OFFICE ACTION SUMMARY

- ☒ Responsive to communication(s) filed on 12/28/99
- ☒ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

- ☒ Claim(s) 1-20 is/are pending in the application.  
Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1-20 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

- ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- ☐ Notice of Reference Cited, PTO-892
- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s): \_\_\_\_\_
- ☐ Interview Summary, PTO-413
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

—SEE OFFICE ACTION ON THE FOLLOWING PAGES—

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## **DETAILED ACTION**

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The Examiner acknowledges receipt of the amendment filed December 28, 1999.

In this application:

Claims 1-20 are pending and under examination.

### ***Response to Arguments***

(1) The objection to the drawings under 37 CFR 1.84 or 1.152 for the reasons stated on PTO 948 is maintained.

(2) The objection to the drawings under 37 CFR 1.83(a) is withdrawn in view of the corrected drawings received November 6, 1998.

(3) The rejection of claims 1-20 under 35 U.S.C. 112, second paragraph is maintained.

Applicant asserts that the term "substantially uniform" is consistent with its customary meaning.

Although the term "substantially" is routinely used in claims, its meaning (in combination with the term it modifies) is usually set forth in the specification so the metes and bounds of the claims can be determined.

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Applicant defines "heat transferring volume" as "a volume for transferring heat (e.g., as defined by the other structural elements recited in the claim)."

However, it is not clear if Applicant is referring to an empty space of a specific gas.

(4) The rejection of claims 1-4, 14 and 15 under 35 U.S.C. 102(b) as being anticipated by Cathey Jr, is maintained.

Applicant contends that Cathey does not mention the thermal conductivity properties of the o-ring seal placed between the substrate and holding body of the plasma reaction chamber. Applicant also contends that although Cathey use an o-ring seal between the wafer and electrode, the reference does not suggest the use of an o-ring having thermal conductivity properties similar to the heat transferring seal of the claimed invention. Moreover, Applicant asserts that the thermal conductivity of the cooling gas depends on the pressure, and Cathey does not discuss varying the properties, such as thickness or material composition of the o-ring seal. Applicant, therefore, asserts that there must be occasions where the thermal conductivities of the two elements are not matched so as to provide uniform heat transfer across the wafer.

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Cathey teaches an apparatus comprised of the o-ring seal and a holding body. Furthermore, Cathey used the o-ring seal in order to improve the heat transfer between the wafer being etched and the holding body. Moreover, Cathey notes the desirability of obtaining proper heat transfer to obtain good wafer cooling and prevent photoresist patterns on wafers. In addition, although the claim recites "thermal conductivity," it would appear that the thermal conductivity would be sufficient as long as heat transfer is achieved. Since Cathey used the o-ring seal to achieve the same result (i.e., improved heat transfer), the rejection is maintained.

(5) The rejection of claims 1-4, 14 and 15 under 35 U.S.C. 103 as being obvious by Cathey, Jr in view of Kirchner et al is maintained for reasons of record.

(6) The rejection of claims 5-13, 16-20 under 35 U.S.C. 103 as being obvious by Cathey, Jr in view of Kirchner et al and further in view of Velbeck et al is maintained for reasons of record.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this

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action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The Group and/or Art Unit location of your application in the Patent and Trademark Office may have changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 1641.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to V. Ryan whose telephone number is (703)305-6558.


Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703)308-0196.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Housel, can be reached on (703) 308-4027.

Papers related to this application may be submitted to the Group 1600 by facsimile transmission. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The fax number for Art Unit 1641 is (703)308-4242.

V. Ryan  
Patent Examiner/Art Unit 1641  
January 2000  
Ryan/vr

  
JAMES C. HOUSEL 1/18/00  
SUPERVISORY PATENT EXAMINER